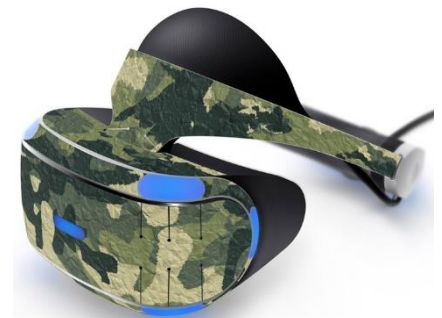# Tactical Combat System

VR

It's the preparation that counts, if you want to pass a mission.

Lecture: Strategic Management

Teacher: Doc. Ing. Pawliczek, Ph.d

The Product

- It is a VR – System which simulate Combat situations for soldiers. It teaches ways of dealing with unexpected events, for example, a sniper attack, but without putting themselves in danger.

- It is vitally important that they are taught how to react to dangerous settings where the wrong decision may mean the difference between life and death.

- Combat- simulation which takes the form of a 3D environment and recruits move around and engage with.

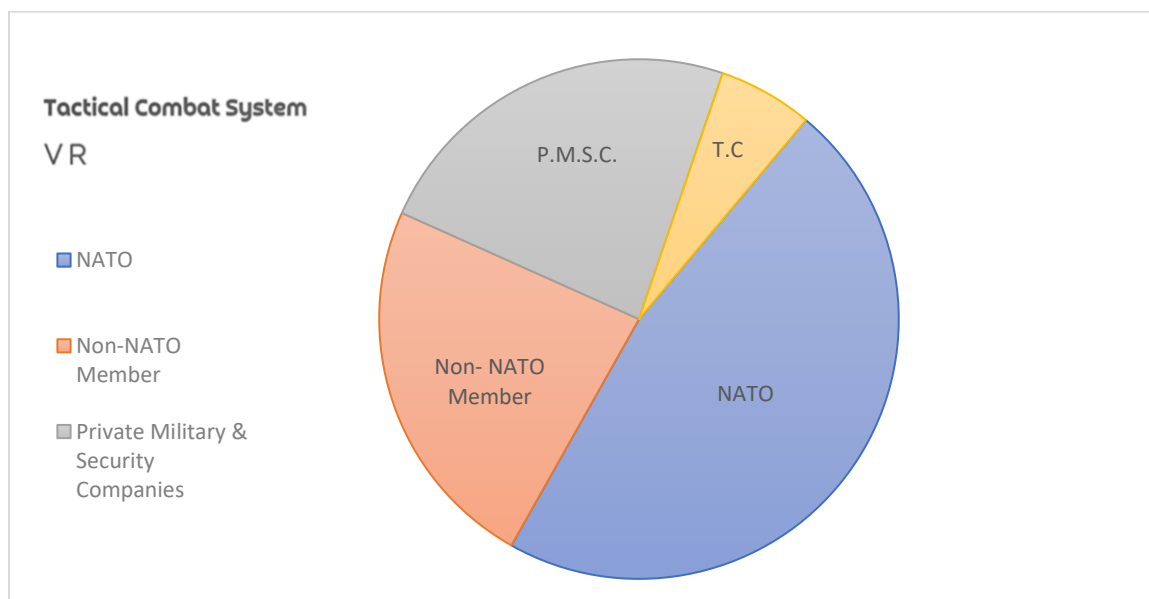- They wear virtual reality glasses or head mounted displays (HMD) com[ ] system.
  This shows a series of images within the virtual environment which move as the recruit moves his/her head. This gives the sense of depth and adds to the realism.

Prototype of the Product

Market

Our customers are roughly divided into 4 columns. On the one hand the NATO (North Atlantic Treaty organisation) this will be all 30 members. Then no NATO states like Austria or Switzerland. Private military and security companies and technology companies.

Tactical Combat System
V R

- NATO
- Non-NATO Member
- Private Military & Security Companies

P.M.S.C.   T.C   Non- NATO Member   NATO

Competition

Oculus Rift, Valve Index, Samsung Gear VR

Financial Demand

- The production of the product would cost us 500 euros, but we will use an existing product, the Oculus rift. We are buying the Oculus Rift thanks to a contract with the company for 300 euros each.
- The organisational costs for program etc. are about 700€ per piece.
- We charge 1000 Euro per month for a VR system program license, in which the area and environmental conditions are displayed.
- We sell one license + one VR equipment once for 2000 (each additional month costs 1000 Euro). A one-time purchase brings us a profit of 1000 Euro per piece. This is a fair offer especially for big companies and armies and can more than keep up with possible competing companies.

Know How

Tracking

- When talking about movement and tracking in VR, people often refer to "degrees of freedom", or DoF. More degrees of freedom means that more of your physical movements will be tracked by the headset and mapped onto your simulated representation.
- The two most common terms you'll see when reading about degrees of freedom are 3DoF and 6DoF (3 and 6 degrees of freedom, respectively).
- Headsets that only provide 3DoF will only track your head's movements (roll, pitch, yaw) but not its position in space (x, y, z coordinates).
- 6DoF is able to track both your head's movements *and* its coordinates in a physical space.

Roomscale

- There are generally 3 different types tracked volumes with some software tailored for each play area size: roomscale, seated, and standing. Roomscale VR is all about setting a boundary or play area and being able to freely and physically move around that area in the game.

- The idea of roomscale games is being able to physically move around your space to interact with the simulated environment and objects inside of it.

Movement

The movement in VR works through sensors that are attached to the whole body of the person. Thus all physical movements, such as kneeling, lying, running 1 to 1 in the VR are reproduced to create the most "real" environment.
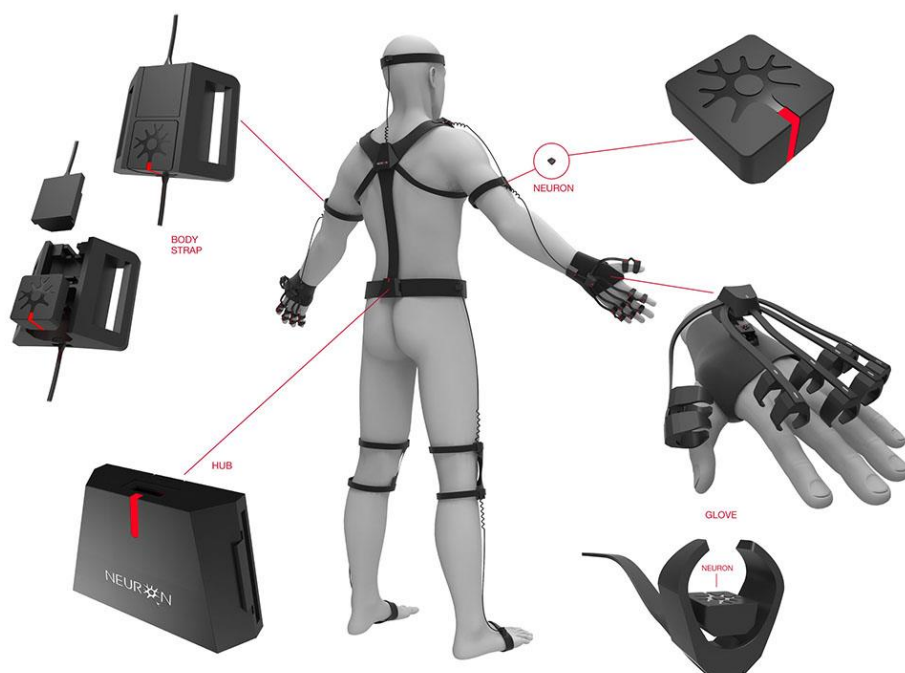
Production cost
We sell our product for 2.000 Euro
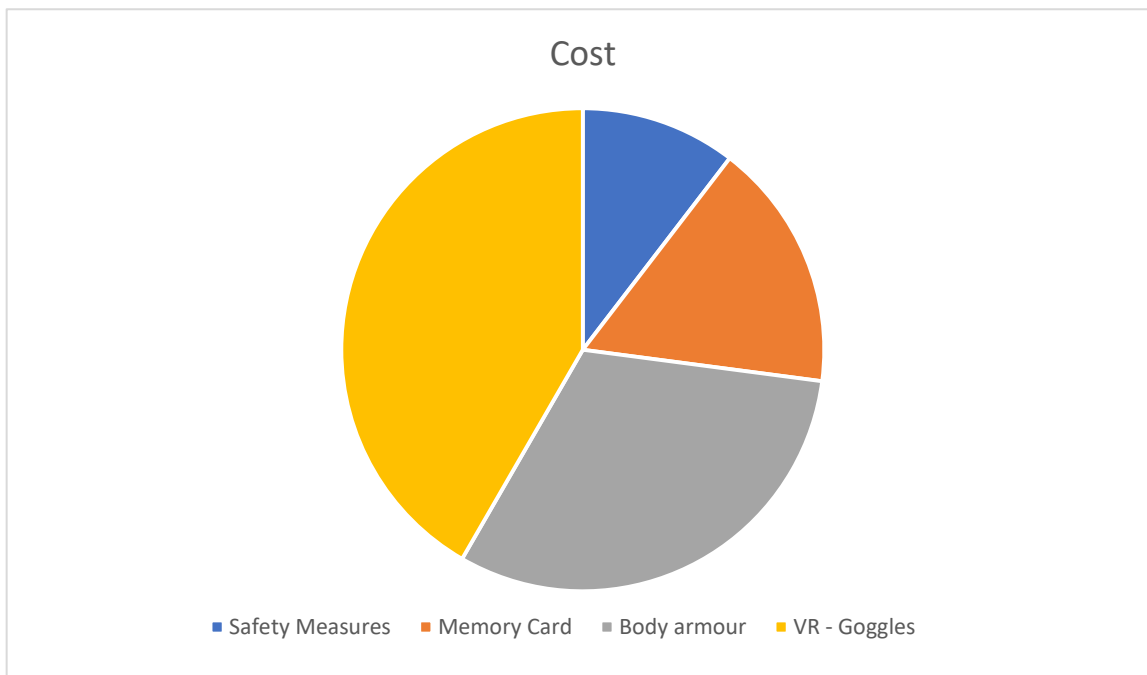
The production costs are (amount) these consist of

- Safety measures on spectacles 40 Euro

- The memory card for the software 32 Euro

- Body armour with sensors 600 Euro

- The VR - Goggles

In order to save costs, spare parts are not re-ordered by OCOLUS RIFT but are produced
independently with the 3D printer to reduce logistics costs and to be able to deliver spare parts
faster.

The assembly of the parts and the checking for readiness for use is carried out by our skilled workers.
Software and electrical components are checked by our IT specialists.
Everything is tested in our HQ in the practice room to check all aspects of the product before sale.
The latest update is uploaded and everything is prepared.

- Market Size

  The product is sold outside and inside NATO in order to transmit the product to a wider audience of sellers.

- Potential

  Since conflicts are now carried out in the paramilitary domain; it is very difficult to reconstruct them. For this very reason, scenarios from previous combat missions can be saved and replayed in the program.

- Customers, Providers

  The buyers of the product are state armed forces within and outside NATO that can use this technology. This product enables soldiers to practice and evaluate possible scenarios in combat operations.
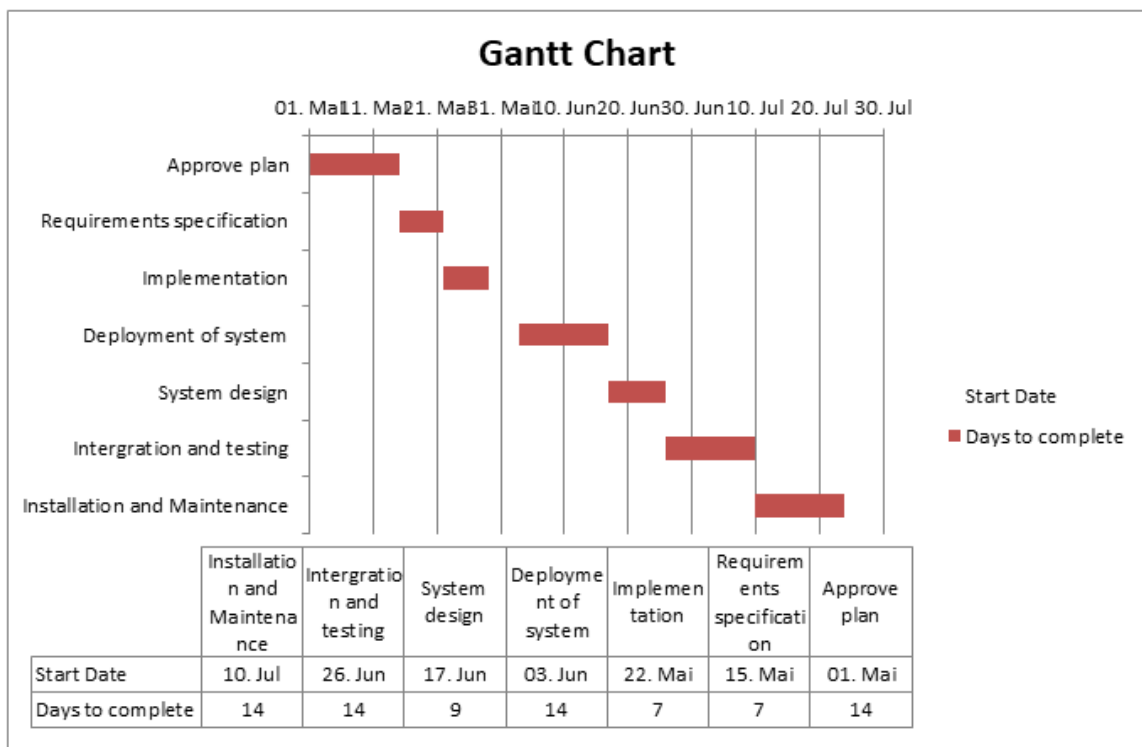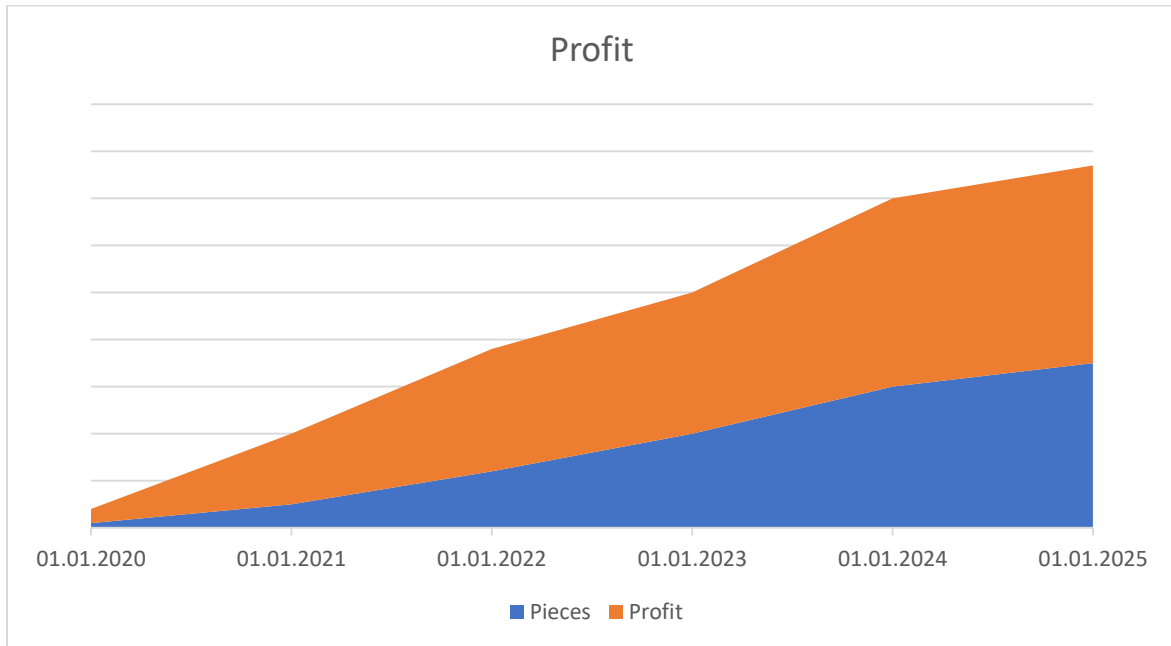
Transport and logistics

- The storage of the glasses and spare parts like the sensor will take place in our warehouse to save costs.

- The shipping method is either by land, sea or air. We will use existing shipping companies, because they are cheaper and faster.

- Since glasses and software are delivered separately, security can be guaranteed. Software will be sent separate and the hardware

Research and development

- Our company has signed a contract with the Austrian and German Army, where research and development is carried out and the product is constantly being improved, whether it is weight reduction, realistic scenarios or improvement of the seniors.

- Not only with the army but also with the universities in Germany and Austria we are always looking for improvements in the virtual world.

EMS

- In order to produce sustainably and have a minimal impact on the environment, T.C.S. will switch to solar energy as well as CO_2 consumption through the supply of spare parts, 3D printers will be replaced in the future to be more sustainable and effective.

Profit

01.01.2020   01.01.2021   01.01.2022   01.01.2023   01.01.2024   01.01.2025

■ Pieces ■ Profit

Gantt Chart

01. Mai 11. Mai 21. Mai 31. Mai 10. Jun 20. Jun 30. Jun 10. Jul 20. Jul 30. Jul

Approve plan
Requirements specification
Implementation
Deployment of system
System design
Intergration and testing
Installation and Maintenance

Start Date
■ Days to complete

	Installation and Maintenance	Intergration and testing	System design	Deployment of system	Implementation	Requirements specification	Approve plan
Start Date	10. Jul	26. Jun	17. Jun	03. Jun	22. Mai	15. Mai	01. Mai
Days to complete	14	14	9	14	7	7	14

SWOT Analysis

Strengths
High product quality
Committed workforce
Adaptive to change
Spread acroos the world in different languages
Huge market territory
First Hand experience from trained military personnel
Focused marketing campaign with clear goals
Reliable, experience workers with military background

Weaknesses
New business without reputation
Lack of capital, mainly from loan and investors
High startup costs
Modest advertising budget
Time intensive

Opportunities
Growing comunity of armed forces in need of training software
Government might back the project
Underserved market
No competitors in Austria
Emerging need for our product
Press/media coverage of our company (through media officers from our army)
Possibility to exapand our services if needed

Threats
Existing and emerging competitors from other countries
Media coverage outside the army might be negative? (instead of training in the field)
Strong competiton from the USA and Asian countries
Change in technology (long term threat)
Seasonality (depending on ongoing wars or armed conflicts)

- ## Product

- Our company offers a unique product, which does not exist in this form yet.

- Because our product falls into the military sector, we are particularly interested in high quality and robust materials.

- A special design is not in the foreground. Savings are made on packaging, because in the military sector functionality is more important than looks.

- The Oculus Rift Goggles and the Sponsors for mobility as well as the program is delivered in one. The customer gets the extension packs as download

Promotion

- The communication policy within our marketing mix includes the internal and external communication of our company.

- The internal communication will be carried out through a company-owned intranet to inform employees.

- External communication is aimed at various stakeholder groups. All information about the company's own product range and marketing will be communicated here

Measures by TCS:

- Public Relations: Public relations work for the establishment of a positive corporate image

- Personal Selling: at the beginning we will focus on personal selling. Direct contact with the armies will be crucial until our product has become known worldwide.

- Events: TCS will also offer one or more action days with interaction possibilities.

- -Social Media: We will advertise our products on various social media sites and contact directly the public officers of the different armies. Furthermore we will deliver test products to influencers with military background.

The primary goal of the communication policy is the strategic positioning of the offer in order to make it more attractive for customers.

Place

The sales channels and logistical decisions are controlled within the distribution policy.

- the choice of distribution channels: our company will sell the product through its own website. After it has been tested by soldiers, it can be ordered directly by the armies on our website.
- logistic decisions such as storage and transport: the TCS will be requested on order and sent to our head office because we produce abroad. When an order is received, it is delivered directly from production to us by cheap transport routes. As our customers are armies, they have the capacity to collect our products in large quantities from our headquarters.
- Security of supply: Due to contracts and that we produce in Europe, security of supply is guaranteed.

Personal

In our company, the executing person is one of the most important indicators of customer satisfaction. Economic and social business processes are inseparable. The satisfaction of your own employees can have various positive effects:

- higher performance
- Increase in productivity
- fewer absences due to illness
- enhanced creativity

Our company follows the example of Google. We will build in a so-called TIME OFF for the process of work, where TCS programmers are encouraged to spend 20% of their work time on projects that interest them. Of course only if they fit in the field of the work.

Process

- The processes during the creation of products and services can have a direct impact on customer satisfaction and thus on business success.

- Our company will continuously optimize specifically planned work processes. New cards for our TCS will be expanded and improved.

- As the basic base can be used for future updates, the price for these will also decrease steadily.

- The more orders we receive, the more money can be invested in optimizing the work process.

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Physical Facilities

- The equipment policy of our company refers to the premises used.

- A positive perception of the premises through equipment and quality is an important indicator of customer satisfaction.

- Some components are purchased externally and therefore we have no influence on their production. However, the company is located in Vienna and we are keen to produce as much as possible in the vicinity. Care is taken to attract Austrian companies to generate a quality product.

Setting of Margin and Product Prices, Calculations:

Fix costs (manufacturing place, ensurance, EDV,…)	700€
Variable costs (materials 3Dprint)	400€
Total costs	1100€ per piece

Insurance:

- We offer insurance for 2 years for one product (VR glasses).
- After the 2 years have passed you can buy an additional insurance for one product (VR glasses). The price for the additional insurance is 250 Euro per product.
- This insurance lasts 2 years. After that it is again possible to buy an additional insurance for 2 years, again for 250 Euro.

Timeline/Milestones

Timeline of our company

Tactical Combat System
VR

2020	2021	2022	2023	2024
Step 1	**Step 2**	**Step 3**	**Step 4**	**Step 5**
• Company foundation • Purchasing the company • Personnel	• company foundation completed • Ending test phases • acquire customers	• develop international relations • Increase advertising measures • Participation in military exhibitions	• Enlarge the company • launch an off-shore presence in America • Further product development	*The company runs itself*

01

TCS
01.05.2020